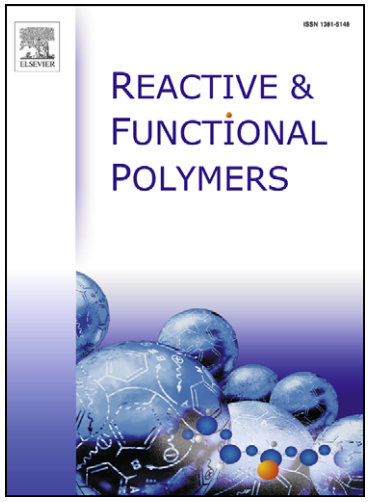

Synthesis, characterization and third-order nonlinear optical properties of novel hyperbranched donor-acceptor polyfluorenes based on 1,3,6,8-tertsubstituted carbazole core

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Synthesis, characterization and third-order nonlinear optical properties of novel hyperbranched donor-acceptor polyfluorenes based on 1,3,6,8-tertsubstituted carbazole core

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Abstract: Two novel hyperbranched donor-acceptor polyfluorenes based on 1,3,6,8-tertsubstitued cabazole core (4BrCzP1 and 4BrCzP2) were synthesized and characterized. The third order nonlinear optical properties of the materials were studied using z-scan technique with femtosecond Ti: sapphire laser with delivering pulses of 140fs at 800nm. The nonlinear optical refractive index was 9.29×10^{-8}esu for 4BrCzP1 and 3.19×10^{-7}esu for 4BrCzP2, respectively. While the third order nonlinear susceptibility was 1.29×10^{-9}esu for 4BrCzP1 and 4.33×10^{-9}esu for 4BrCzP2, respectively. The experimental results indicated that the

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